WATER QUALITY OF STILLWATER COUNTY

Ground Water

A total of ten ground water samples were collected from five different wells in Stillwater County as part of the MDA 2005 Yellowstone River Valley Project. Of these five wells one was a permanent monitoring well maintained by the MDA for the purpose of testing ground water for pesticides and four of the wells were private domestic wells. All of the wells were shallow (<32 feet) and were located down gradient of irrigated crop land areas (see attached map for locations). Pesticide and nitrate detections for these wells are summarized in the table below. The only pesticide detected in the ground water of Stillwater County was atrazine and atrazine metabolites. All of the pesticide concentrations were low and none exceeded drinking water standards. Elevated nitrate concentrations were commonly found but none of the concentrations exceeded the drinking water standard of 10 mg/L.

Summary of Pesticide/Nitrate Detections in Shallow Ground Water along the Yellowstone River, Stillwater County, 2005 – Collected by the Montana Department of Agriculture			
Well I.D.	Date	Nitrate (mg/L)	Atrazine + metabolites (µg/L)
YCP-12	5/05/2005	6.2	0.071
	7/18/2005	9.9	0.02
YCP-13	5/05/2005	2.9	0.036
	7/18/2005	ND	ND
YCP-14	5/05/2005	5.4	0.050
	7/18/2005	4.6	ND
YCP-15	5/05/2005	ND	ND
	7/18/2005	ND	ND
E-1	6/14/2005	4.4	0.17
	8/16/2005	4.0	0.17
Drinking Water Standard		10	3

There are numerous public water supplies which obtain their water from shallow alluvial ground water along the Yellowstone River in Stillwater County. Some of these public water supplies are required to periodically test their water for various constituents including pesticides and nitrate. Of all the public water supplies that were tested the only pesticide detection was 2,4-D at a concentration of 1.4 µg/L in 2004 from a well used by the Town of Columbus. The drinking water standard for 2,4-D is 70 µg/L. This well has not been retested since that date to determine

if there is a long term impact to the well water. Nitrate was commonly detected in all these public water supplies but concentrations were generally low (0.2-2.78 mg/L). However, there were a couple of elevated nitrate concentrations (6.41-7.33 mg/L) from a well at a school in Reeds Point. None of these concentrations exceeded the drinking water standard of 10 mg/L.

Surface Water

No pesticide or nitrate data were found for surface waters in Stillwater County.